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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,640	09/30/2003	Gil Naveh	1001.27	6078

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EXAMINER

LAI, VINCENT

ART UNIT PAPER NUMBER

2181

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/675,640	Applicant(s) NAVEH, GIL	
	Examiner Vincent Lai	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-10,12-17,20-24,26-31,34-38,40-45,48-52 and 54-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-10,12-17,20-24,26-31,34-38,40-45,48-52 and 54-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/27/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Amendments to the title and abstract overcome objections, which are now withdrawn.
2. Amendments to claims 7, 21, 35, and 49 overcome the 35 USC 112 rejection, which is now withdrawn.
3. Applicant's arguments filed 27 November 2006 have been fully considered but they are not persuasive.

The 35 USC 101 rejection is maintained. Examiner recognizes the claims rejection pertain to an apparatus; however a network connection is a non-statutory computer readable medium apparatus. The inclusion that it is an apparatus does not satisfy requirements.

Firstly, the Examiner would like to point to the fact that the Examiner looked to the Applicant's disclosure to ascertain the metes and bounds of Applicants recited "apparatus" as recited in claim 43. Page 11, lines 26-28 indicate that the "apparatus" is "(e.g. hard disk, floppy diskette, compact disc, memory device or a network connection)." From the above, it appears that the Applicants are equating a "network connection" with other types of storage devices. Examiner would like to emphasize that

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a traditional "network connection" is unable to store data in a manner similar to a traditional storage device like a hard disk, floppy diskette, etc. Traditional "network [connections]" simply represents a "transfers means" for transmitting from/to for example a remote storage device and can include, for example, a carrier wave or other wireless transmission media. Accordingly, it is the determination of the Examiner that these claims remain unpatentable as being drawn to non-statutory subject matter for the reasons pointed to above by the Examiner.

Applicant has argued that that "the Office Action cites the 'Read' stage in Fig. 4 of Verbauwhede, but the 'Read' stage fails to anticipate the selected one of the first and second execution stages of the second instruction in amended claim 1. For example, in the 'Read' stage, Verbauwhede fails to teach an execution stage in which a second arithmetic operation of a second instruction is performed in response to second source operand information, and in which second destination operand information is output in response thereto."

Given the Specification and in light of the claims, Examiner believes the Verbauwhede pipeline does cover the amended portions. A pipeline would perform an instruction according to source operand information and operand information is outputted to the Read stage. Examiner is unable to see how such limitations are not anticipated by Verbauwhede.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 43-56 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 43 recites a computer program, which in the specification, "is accessible by the information handling system from a *computer readable medium* apparatus (e.g., hard disk, floppy diskette, compact disc, memory device, or network connection). Although the first four listings of examples of a computer readable medium are valid, a network connection is a carrier wave/signal and thus is directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 6-10, 12-17, 20-24, 26-31, 34-38, 40-45, 48-52, and 54-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Verbauwhede et al (U.S. Patent # 5,710,914), herein referred to as Verbauwhede.

As per **claim 1**, Verbauwheide discloses a method performed by an information handling system for processing a sequence of instructions (See column 4, lines 51-52: Programs are a sequence of instructions) that includes first and second instructions (See column 4, lines 51-52: A first and second instruction can be any two instructions in the sequence), wherein each of the first and second instructions is processable in a sequence of stages (See figure 4: There are five stages in one embodiment) that includes first and second execution stages (See figure 4: There are more than 1 stage and thus first execution stage could be read and the second could be execute), and wherein the first instruction's second execution stage is processable substantially concurrent with processing the second instruction's first execution stage (See figure 4: This is a property of instructions in a pipeline as pipelines are designed to operate in such a manner), comprising:

executing the first instruction during both of its first and second execution stage (See figure 4: The second execution stage is the execute stage of the pipeline and normal instructions are executed through all five stages), in which a first arithmetic operation of the first instruction is performed in response to first source operand information, and in which first destination operand information is output in response thereto (See column 10, lines 42-60: Execution is done once operands are ready); and

executing the second instruction during a selected one of its first and second execution stages (See figure 4: If there is no contention, then a read during the first stage of the second instruction is possibly, else, it would have to wait until memory write

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is done), in which a second arithmetic operation of the second instruction is performed in response to second source operand information, and in which second destination operand information is output in response thereto, so that the second instruction is execute (See column 10, lines 42-60: Execution is done once operands are ready); during only its first execution stage in response to the second source operand information being independent of the first destination operand information (See column 9, lines 34-40: In the absence of dependence, there is nothing prohibiting normal execution); and during only its second execution stage in response to the second source operand information being dependent on the first destination operand information (See column 10, lines 48-55: Delays are for as long as it is necessary); and wherein the second destination operand information is written for storage in a memory after the second instruction's second execution stage, even if the second instruction is executed during its first execution stage (See figure 4 Instructions follow a pipeline and thus cannot skip a stage in a pipeline).:

As per **claim 2**, Verbauwheide discloses wherein executing the second instruction comprises:

executing the second instruction during the selected one of its first and second execution stages, in response to an encoding of the second instruction (See column 9, lines 41-64).

As per **claim 3**, Verbauwhede discloses wherein the memory is a cache (See figure 4: After a second execution stage, data is written to a register file).

Claim 4 has been cancelled.

Claim 5 has been cancelled.

As per **claim 6**, Verbauwhede discloses wherein executing the second instruction comprises:

executing the second instruction only during its second execution stage in response to the second source operand information being dependent on the first destination operand information, but only if the system includes a suitable resource for executing such instruction during its second execution stage (See column 10, lines 48-55: Delays are for as long as it is necessary).

As per **claim 7**, Verbauwhede discloses wherein the sequence of stages includes multiple execution stages, including at least the first and second execution stages and an additional execution stage (See figure 4).

As per **claim 8**, Verbauwhede discloses wherein the additional execution stage precedes the first execution stage (See figure 4: Fetch and decode stages come before the read stage).

As per **claim 9**, Verbauwheide discloses wherein the additional execution stage follows the second execution stage (See figure 4: The write stage comes after the execute stage).

As per **claim 10**, Verbauwheide discloses wherein the additional execution stage is a first additional execution stage and wherein the first additional execution stage precedes the first execution stage, and wherein a second additional execution stage follows the second execution stage (See figure 4: One stage surrounds the first and second execution stage).

Claim 11 has been cancelled.

As per **claim 12**, Verbauwheide discloses wherein the second instruction is executable in a single machine cycle of the system, and wherein the first instruction is executable in only multiple machine cycles of the system (See column 10, lines 42-55).

As per **claim 13**, Verbauwheide discloses wherein the sequence of stages is processed in one machine cycle of the system per stage (See figure 4: This is a property of a pipeline as stages are designed to run one per cycle).

As per **claim 14**, Verbauwheide discloses wherein the sequence of stages is the same for the first and second instructions (See figure 4: There is only one pipeline and all instructions must follow this one sequence).

Claims 15-17, 20-24, and 26-28 are rejected due to similar reasoning to the rejections of claims 1-3, 6-10, and 12-14, respectively. An assembling a sequence of instructions is disclosed by Verbauwheide (See column 4, lines 51-52: Instructions are assembled into a program).

Claims 18, 19, and 25 have been cancelled.

Claims 29-31, 34-38, and 40-42 are rejected due to similar reasoning to the rejections of claims 1-3, 6-10, and 12-14, respectively. Claims 29-31, 34-38, and 40-42 are recognized as the apparatus claims for claims 1-3, 6-10, and 12-14, respectively. An information handling system (See column 4, lines 15-19: A DSP can handle information), first circuitry (See figure 4), and second circuitry (See figure 4) are disclosed by Verbauwheide.

Claims 32, 33, and 39 have been cancelled.

Claims 43-45, 48-52, and 54-56 are rejected due to similar reasoning to the rejections of claims 15-17, 20-24, and 26-28, respectively. Claims 43-45, 48-52, and 54-56 are recognized as the apparatus claims for claims 15-17, 20-24, and 26-28,

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respectively. A computer program (See column 4, lines 51-52) is disclosed by Verbauwhede.

Claims 46, 47, and 53 have been cancelled.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Lai whose telephone number is (571) 272-6749. The examiner can normally be reached on M-F 8:00-5:30 (First BiWeek Friday Off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

vi
February 9, 2007

Vincent Lai
Examiner
Art Unit 2181



DONALD SPARKS
SUPERVISORY PATENT EXAMINER